

**Applicant:** Naotaka KOBAYASHI, *et al.*

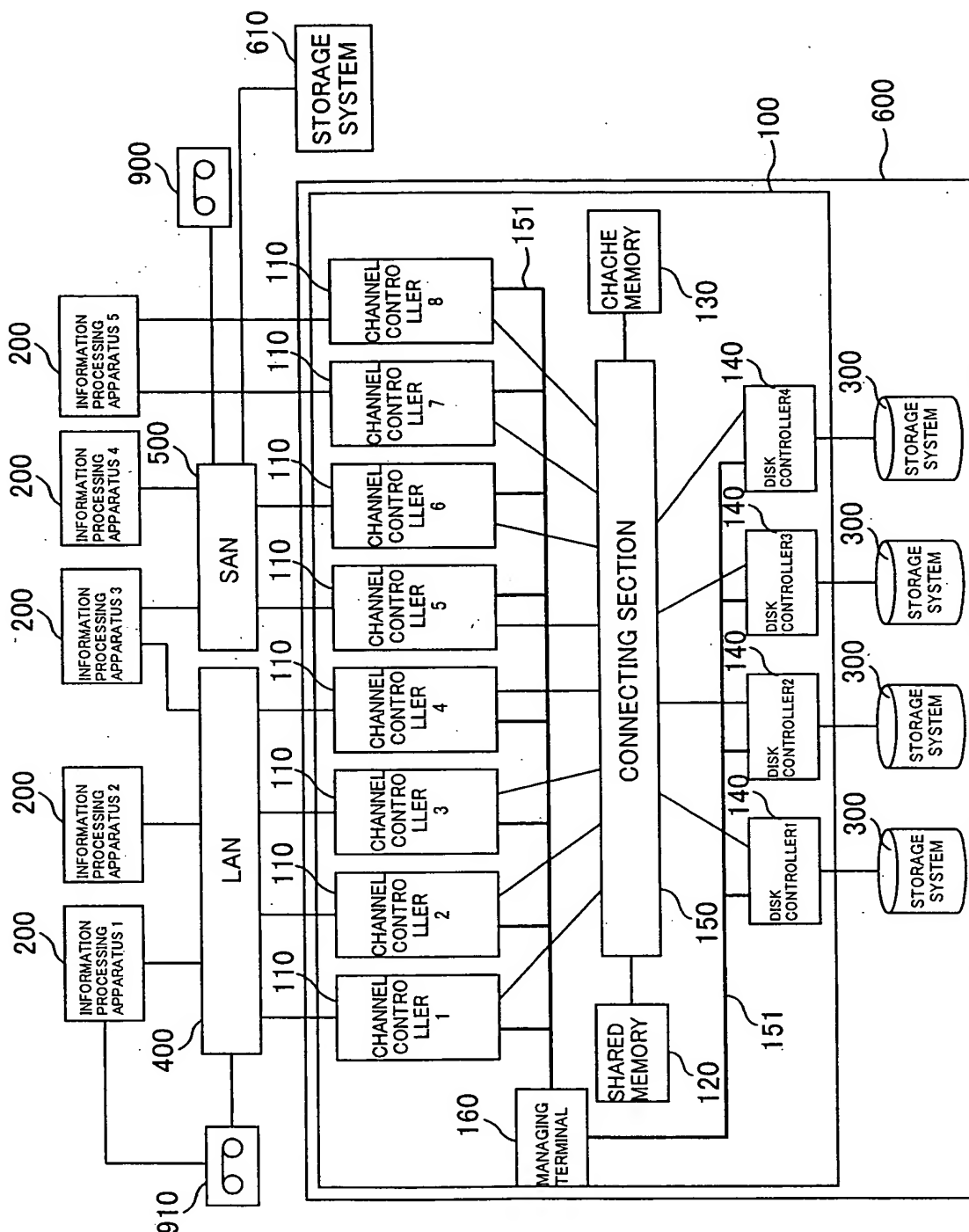
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FIG.1



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FIG.2

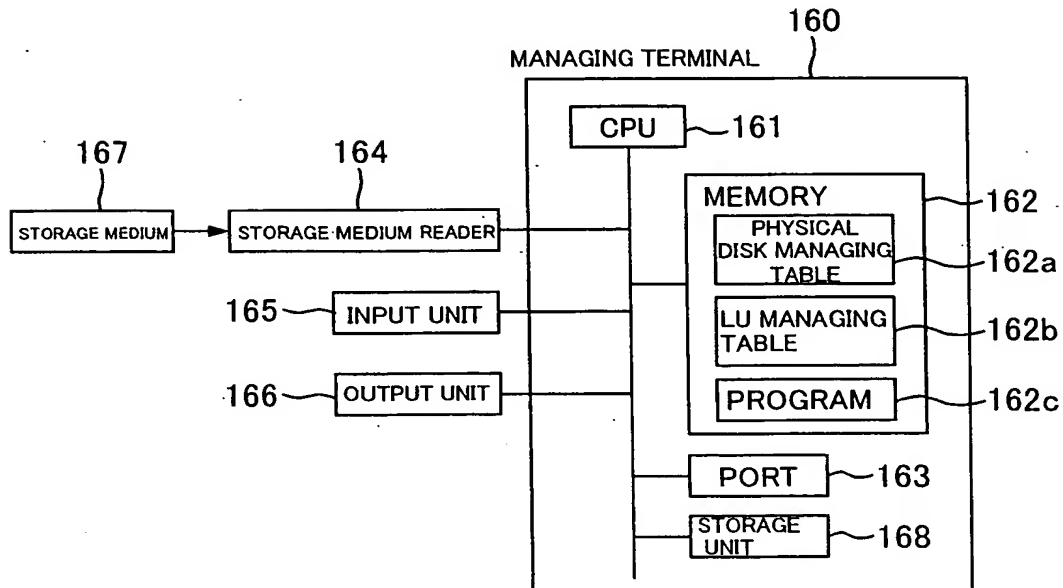


FIG.3

162a

PHYSICAL DISK MANAGING TABLE			
DISK NUMBER	CAPACITY	RAID	USAGE STATE
#001	100GB	5	USED
#002	100GB	5	USED
#003	100GB	5	USED
#004	100GB	5	USED
#005	100GB	5	USED
#006	50GB	—	UNUSED
⋮	⋮	⋮	⋮

FIG.4

162b

LU MANAGING TABLE			
LU NUMBER	PHYSICAL DISK	CAPACITY	RAID
#1	#001,#002,#003,#004,#005	100GB	5
#2	#001,#002,#003,#004,#005	300GB	5
#3	#006,#007,	200GB	1
⋮	⋮	⋮	⋮

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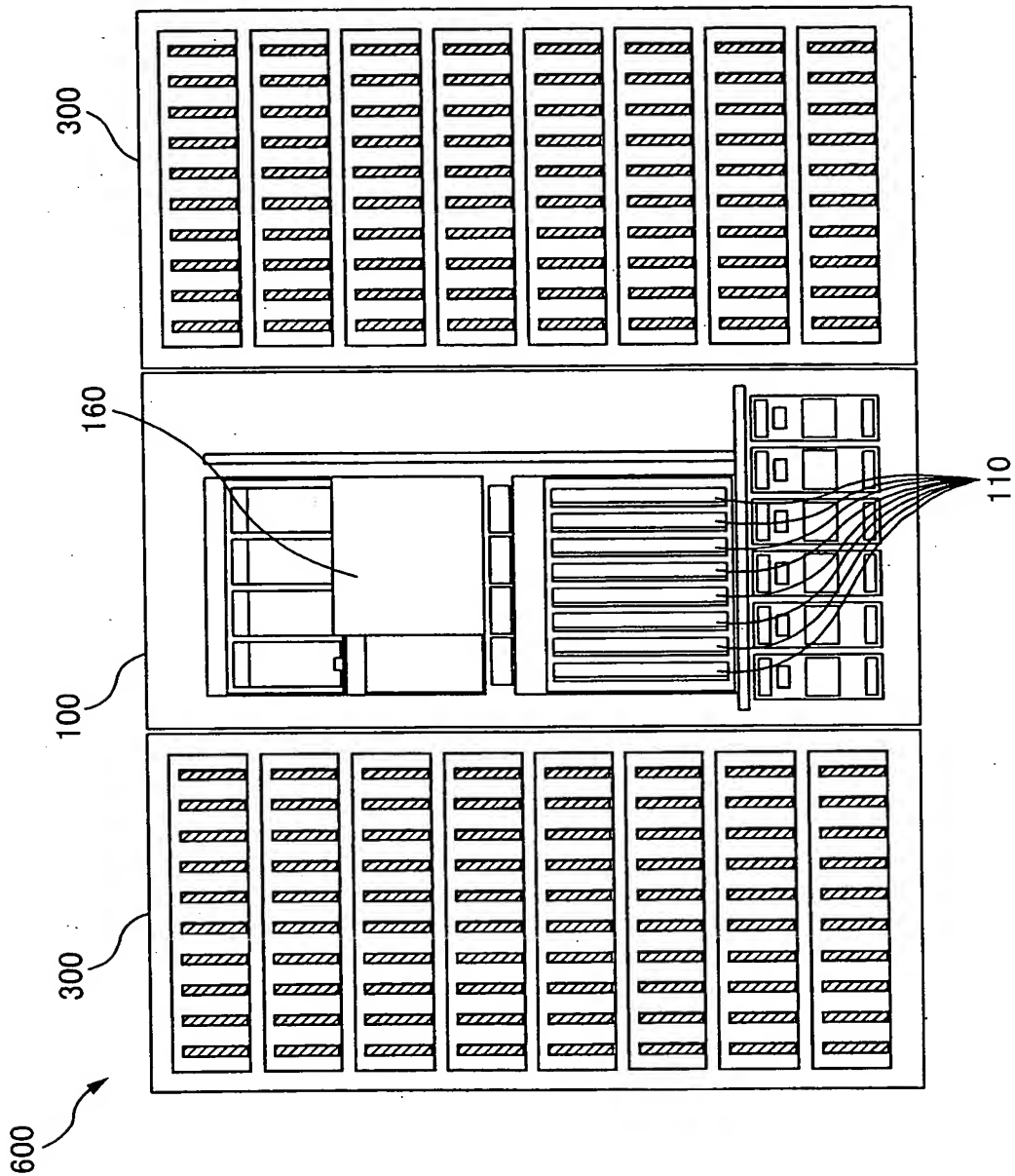
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FIG. 5



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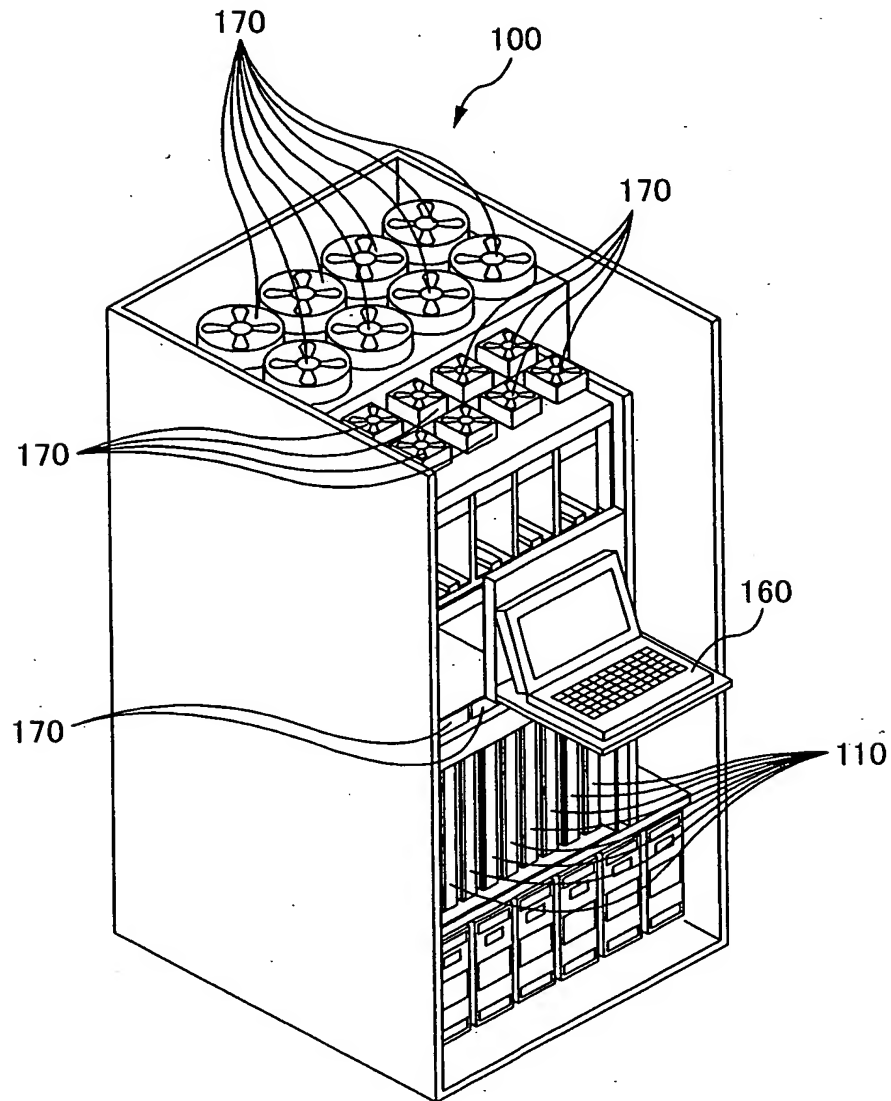
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FIG. 6



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FIG. 7

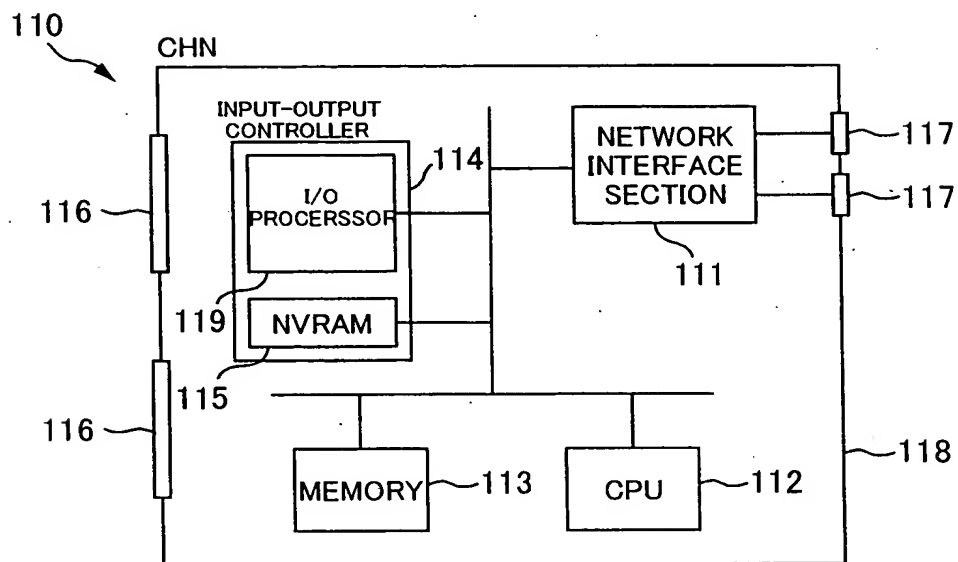
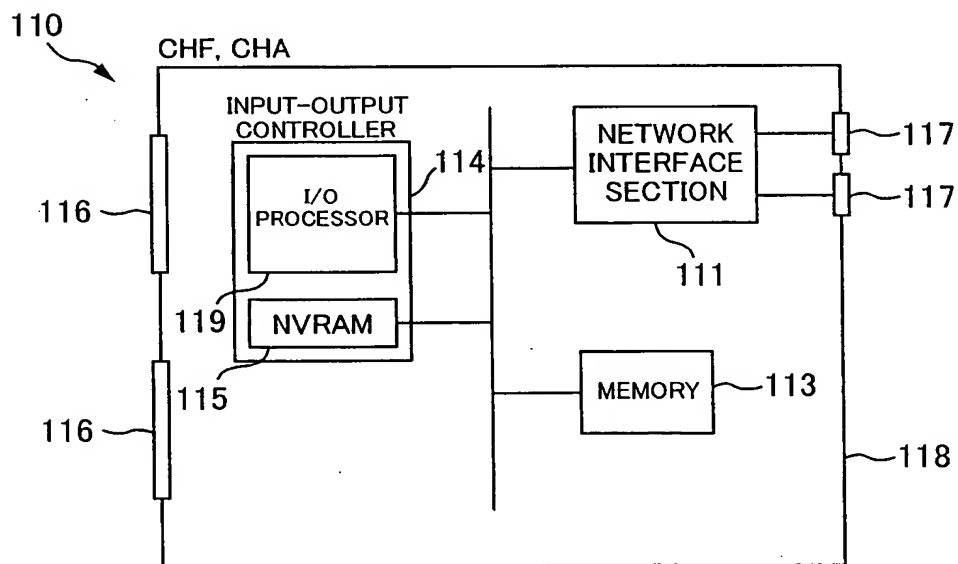


FIG. 8



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FIG.9

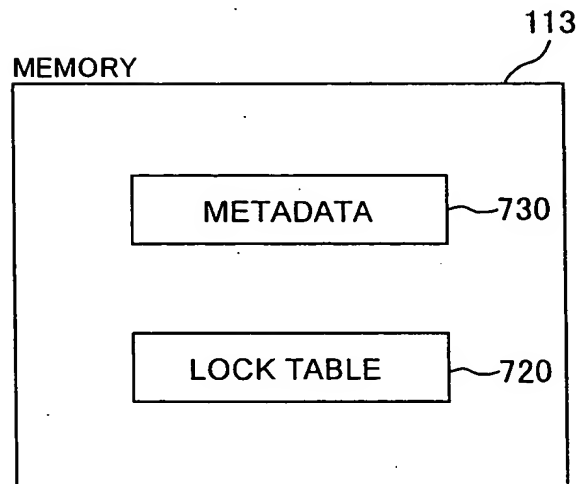
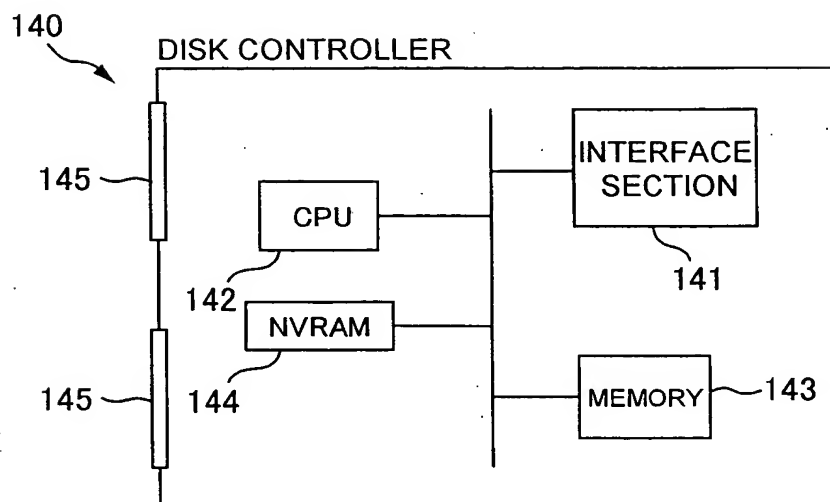


FIG.10



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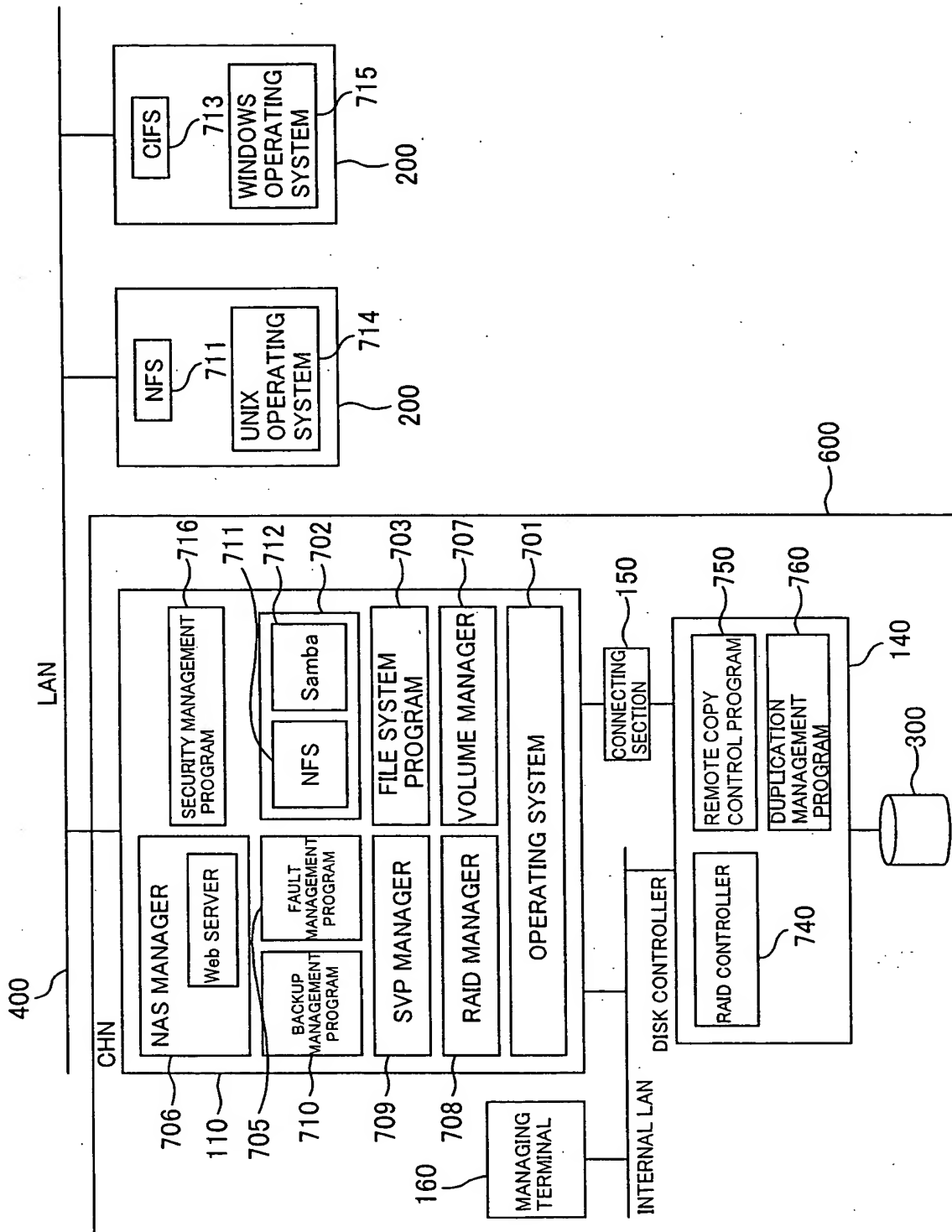
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FIG. 11



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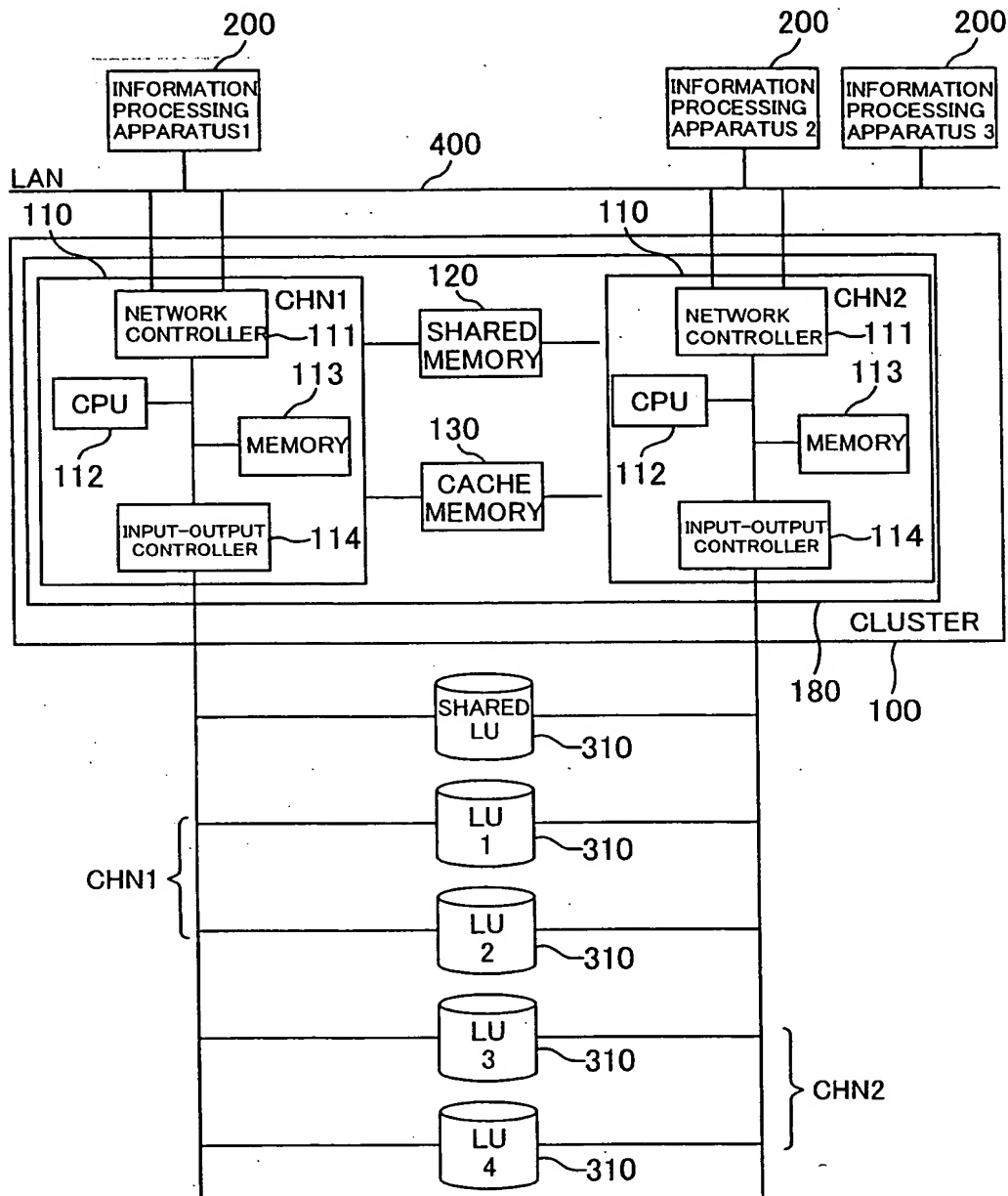
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FIG.12





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FIG.13

730

METADATA

FILE NAME	TOP ADDRESS	CAPACITY	OWNER	UPDATE TIME
A	7BSA	200MB	X	0:00
B	05BF	50MB	X	7:57
C	1F30	100MB	Y	9:15
D	470B	100MB	Z	15:20
⋮	⋮	⋮	⋮	⋮

FIG.14

721

FILE LOCK TABLE

FILE NAME	LOCK/UNLOCK
A	LOCKED
B	—
C	—
D	LOCKED
⋮	⋮

722

FILE LOCK TABLE

LU	LOCK/UNLOCK
SHARED	—
1	LOCKED
2	—
⋮	⋮

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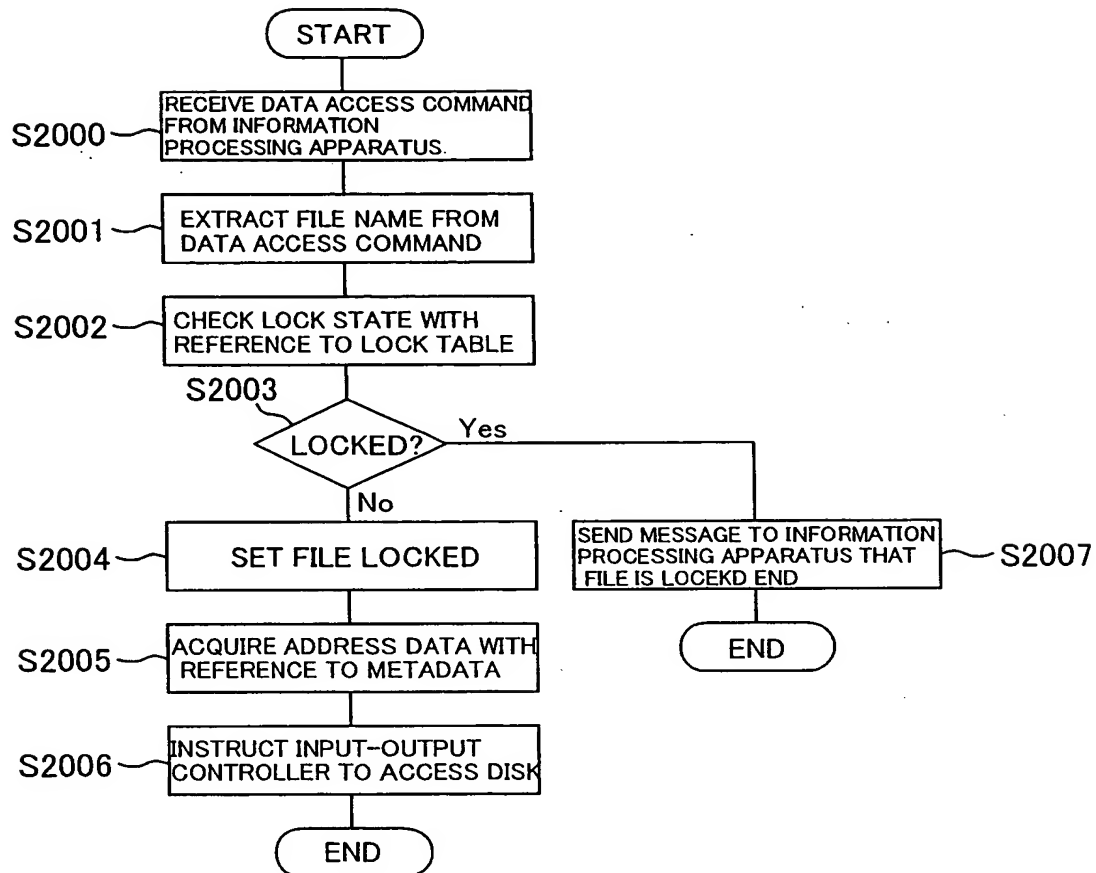
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FIG.15



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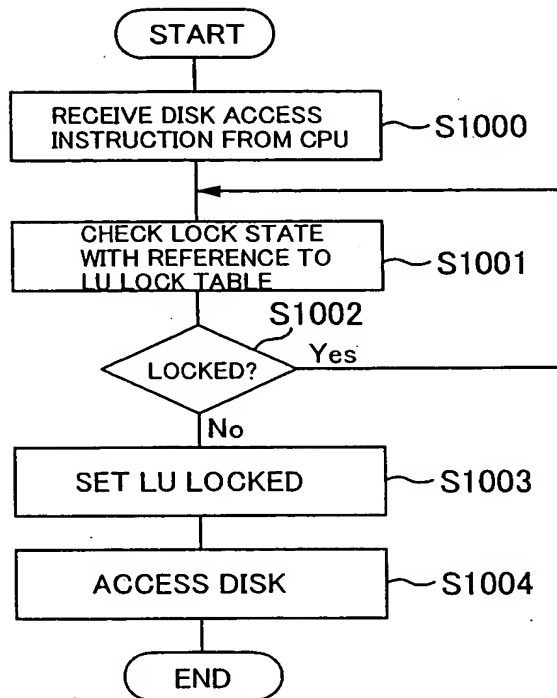
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FIG.16



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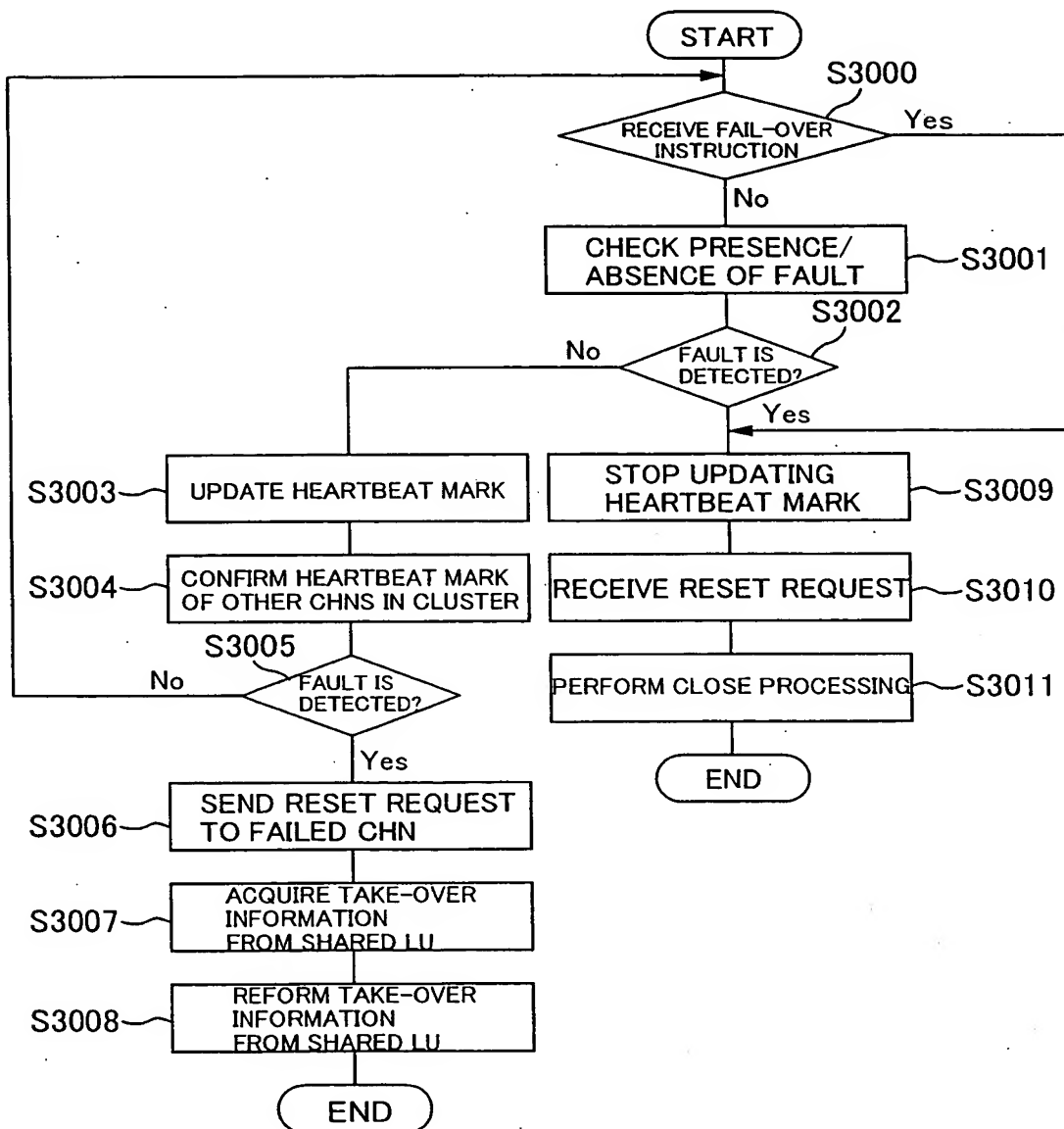
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FIG.17



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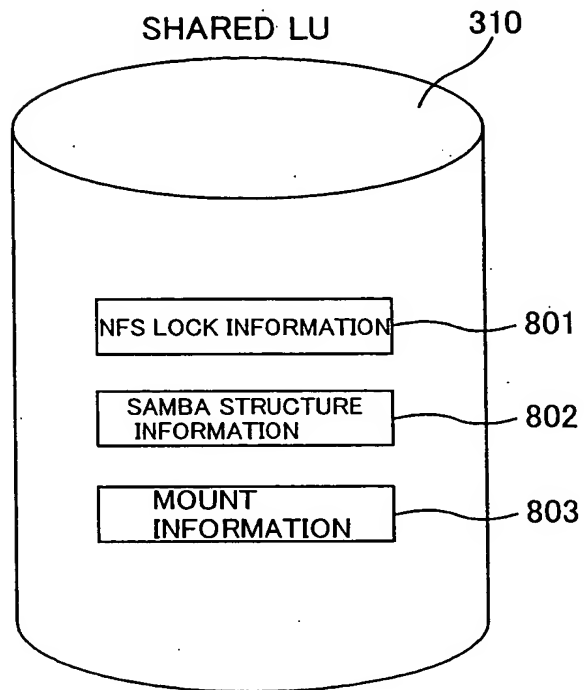
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FIG.18



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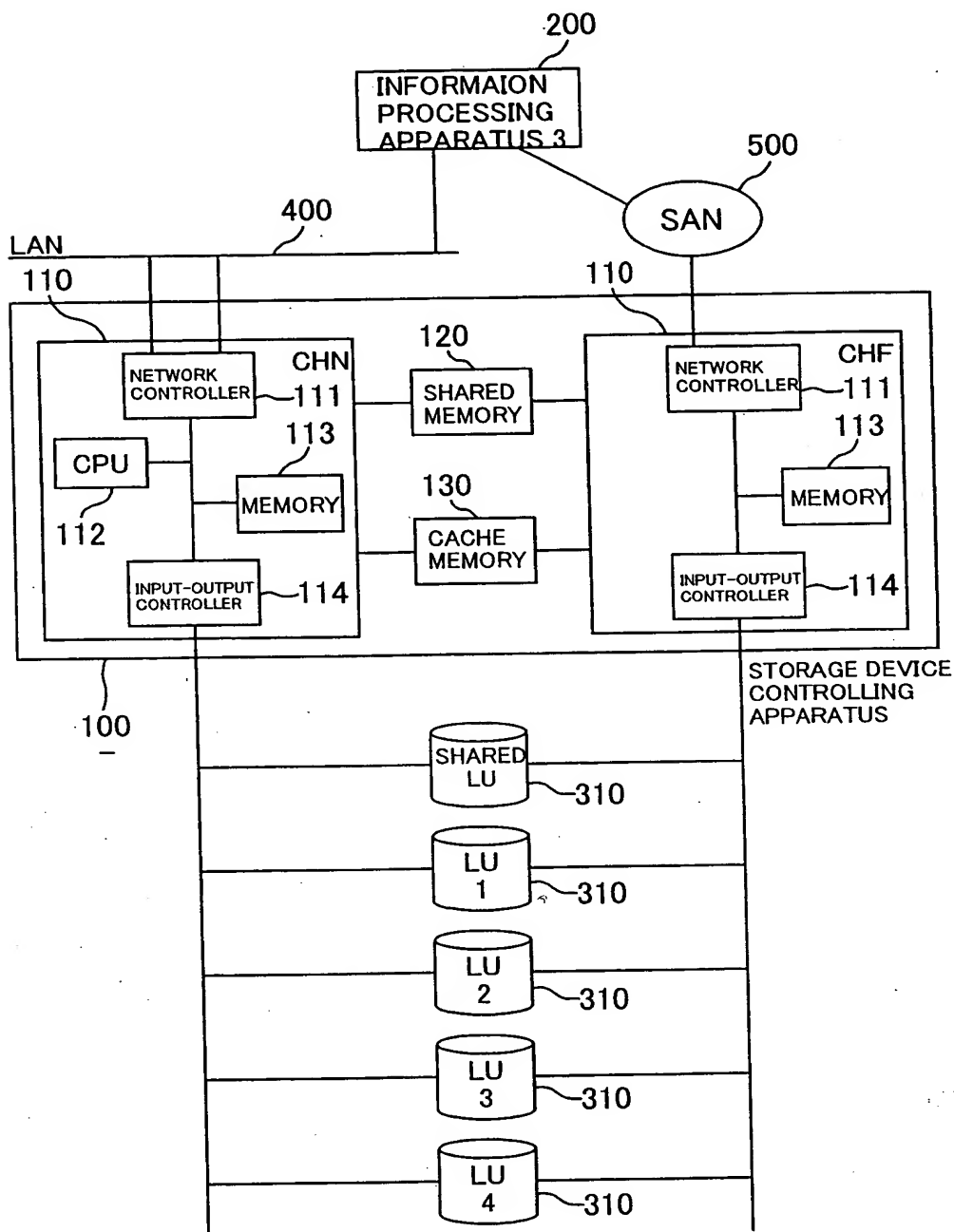
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FIG.19



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FIG.20

